



# **FCC&ISED EMC Test Report**

Project No. : 1801C228 Equipment : LCD Monitor

**Model Name** : (1)X24P1, (2)24P1, (3)\*\*24\*\*\*\*\*\*(\*=A-Z,a-z,0-9,/,or

blank)

**Applicant**: TPV Electronics (Fujian) Co., Ltd.

Address : Ronggiao Economic and Technological Development

Zone, Fuqing City, Fujian Province, P.R. China

Date of Receipt: Jan. 29, 2018

**Date of Test**: Jan. 31, 2018 ~ Feb. 11, 2018

Issued Date : Apr. 20, 2018 Tested by : BTL Inc.

**Testing Engineer** 

(Jason Yang)

**Technical Manager** 

Bill Zhang)

**Authorized Signatory** 

(Kevin Li)

# BTL INC.

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#### **Declaration**

**BTL** represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

**BTL**'s reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

**BTL**'s report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

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**BTL**'s laboratory quality assurance procedures are in compliance with the **ISO Guide 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

#### Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

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# **REPORT ISSUED HISTORY**

Issued No.	Description	Issued Date
BTL-FICE-1-1801C228	Original Issue.	Feb. 26, 2018
MDG1804012	Added up model name 24P1.	Apr. 20, 2018

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## 1. CERIFICATION

Equipment : LCD Monitor

Brand Name: N/A

Model Name: (1)X24P1, (2)24P1, (3)\*\*24\*\*\*\*\*\*(\*=A-Z,a-z,0-9,/,or blank)

Applicant : TPV Electronics (Fujian) Co., Ltd. Date of Test : Jan. 31, 2018 ~ Feb. 11, 2018

Test Sample : Engineering Sample Standard(s) : FCC Part 15, Subpart B

ICES-003 Issue 6: 2016 ANSI C63.4-2014

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FICE-1-1801C228) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of NVLAP according to the ISO-17025 quality assessment standard and technical standard(s).

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# 2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

EMC Emission						
Standard(s)	Test Item	Limit	Judgment	Remark		
ECC Double Culphort D	Conducted Emission	Class B	PASS			
FCC Part15, Subpart B ICES-003 Issue 6: 2016 ANSI C63.4-2014	Radiated emission Below 1 GHz	Class B	PASS			
ANSI C03.4-2014	Radiated emission Above 1 GHz	Class B	PASS	NOTE(2)		

## NOTE:

- (1) " N/A" denotes test is not applicable to this device.
- (2) The EUT's max operating frequency is 148.5MHz which does exceed 108 MHz, so the test will be performed.

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#### 2.1 TEST FACILITY

The test facilities used to collect the test data in this report at the location of No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

BTL's test firm number for FCC: 854385 BTL's test firm number for IC: 4428B-3

BTL's test designation number for FCC: CN5020

#### 2.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. The BTL measurement uncertainty is less than the CISPR 16-4-2 U<sub>cisor</sub> requirement.

The reported uncertainty of measurement  $\mathbf{y} \pm \mathbf{U}$ , where expanded uncertainty  $\mathbf{U}$  is based on a standard uncertainty multiplied by a coverage factor of  $\mathbf{k=2}$ , providing a level of confidence of approximately  $\mathbf{95}\%$ .

## A. Conducted Measurement:

Test Site Method		Measurement Frequency Range	U, (dB)
DG-C01	CISPR	150 kHz ~ 30MHz	3.16

#### B. Radiated Measurement:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
		30MHz ~ 200MHz	V	4.68
DG-CB08		30MHz ~ 200MHz	Н	4.68
(3m)	CISPR	200MHz ~ 1,000MHz	V	4.90
		200MHz ~ 1,000MHz	Н	4.90

Test Site Method		ethod Measurement Frequency Range		
DG-CB08	OLODO	1 ~ 6 GHz	4.26	
(3m)	CISPR	6 ~18 GHz	5.30	

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

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# 3. GENERAL INFORMATION

# 3.1 GENERAL DESCRIPTION OF EUT

Equipment	LCD Monitor
Brand Name	N/A
Model Name	(1)X24P1, (2)24P1, (3)**24******(*=A-Z,a-z,0-9,/,or blank)
Model Difference	Different model disbute to different area.
Power Source	AC Mains.
Power Rating	100-240V~ 50-60Hz 1.5A
Connecting I/O port(s)	5* USB port 1* D-SUB port 1* DVI port 1* HDMI port 1* Display port 2* Audio port 1* AC port

Cable Type	Shielded Type	Ferrite Core	Length(m)	Note
D-SUB	Shielded	YES	1.2/1.5/1.8	Bonded two Ferrite Cores
HDMI	Shielded	NO	1.2/1.5/1.8	
Display	Shielded	NO	1.2/1.5/1.8	
DVI	Shielded	NO	1.2/1.5/1.8	Bonded two Ferrite Cores
Audio	Shielded	NO	1.2/1.5/1.8	
AC Power Cord	Non-shielded	NO	1.2/1.5/1.8	1.8m is worst case Detachable (3 Pin)

## Note:

- 1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
- 2. Power cable 1.8m, 1.5m and 1.2m length, worst case is Power cable 1.8m with D-SUB+HDMI+Display+DVI+Audio 1.8m, 1.5m and 1.2m length testing and recording in test report.

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## 3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	D-SUB 1920*1080/60Hz
Mode 2	D-SUB 1280*1024/75Hz
Mode 3	D-SUB 640*480/60Hz
Mode 4	HDMI 1920*1080/60Hz
Mode 5	HDMI 1280*1024/75Hz
Mode 6	HDMI 640*480/60Hz
Mode 7	HDMI 1080P
Mode 8	HDMI 576P
Mode 9	HDMI 480I
Mode 10	Display 1920*1080/60Hz
Mode 11	Display 1280*1024/75Hz
Mode 12	Display 640*480/60Hz
Mode 13	DVI 1920*1080/60Hz
Mode 14	DVI 1280*1024/75Hz
Mode 15	DVI 640*480/60Hz

For Conducted Test			
Final Test Mode	Description		
Mode 1	D-SUB 1920*1080/60Hz		
Mode 4	HDMI 1920*1080/60Hz		
Mode 7	HDMI 1080P		

For Radiated Test				
Final Test Mode Description				
Mode 1	D-SUB 1920*1080/60Hz HDMI 1920*1080/60Hz			
Mode 4				
Mode 7	HDMI 1080P			

#### Note

1. The worst case is evaluated and recorded in test report.

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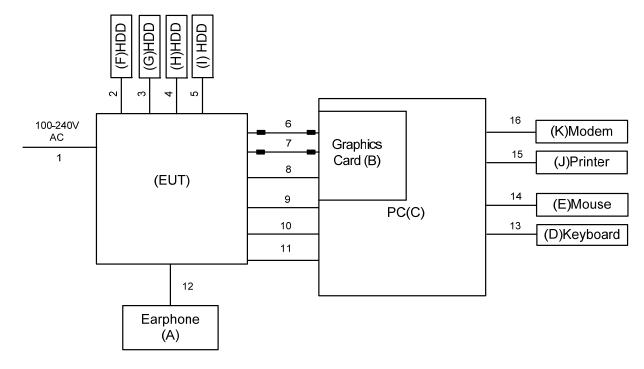


## 3.3 EUT OPERATING CONDITIONS

The EUT exercise program used during radiated and/or conducted emission measurement was designed to exercise the various system components in a manner similar to a typical use. The standard test signals and output signal as following:

- 1. EUT connected to HDD via USB cable.
- 2. EUT connected to earphone via earphone cable.
- 3. PC connected to keyboard and mouse via USB cable.
- 4. EUT connected to PC via HDMI, D-SUB, Display, DVI, USB and Audio cable.
- 5. PC connected to modem via RS232 cable.
- 6. PC connected to printer via Parallel cable.

## 3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



Ferrite Core

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## 3.5 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.
Α	Earphone	Apple	N/A	VER	N/A
В	Graphics Card	DELL	ATI 3650	DOC	2.60832E+11
С	PC	DELL	Vostro 470	DOC	28747261333
D	USB Keyboard	DELL	KB212-B	DOC	CN0HTXH97158125004DXA01
Е	USB Mouse	DELL	MS111-P	DOC	CN011D3V71581279OLOT
F	HDD	WD	WDBLUZ5000ASL	DOC	WJ1E74X7D92
G	HDD	WD	WDBLUZ5000ASL	DOC	WX51AB3N8785
Н	HDD	WD	WDBLUZ5000ASL	DOC	WXX1E7405LYS
I	HDD	WD	WDBBLW5000AAL	DOC	WXM1A81M8113
J	Printer	SII	DPU-414	DOC	3018507B
K	Modem	ACEEX	DM-1414V	IFAXDM1414	0603002131

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	1.8m/1.5m/1.2m	AC Cable
2	YES	NO	1m	USB Cable
3	YES	NO	1m	USB Cable
4	YES	NO	1m	USB Cable
5	YES	NO	1m	USB Cable
6	YES	YES	1.8m/1.5m/1.2m	D-SUB Cable
7	YES	YES	1.8m/1.5m/1.2m	DVI Cable
8	YES	NO	1.8m/1.5m/1.2m	HDMI Cable
9	YES	NO	1.8m	USB Cable
10	YES	NO	1.8m/1.5m/1.2m	Display Cable
11	YES	NO	1.8m/1.5m/1.2m	Audio Cable
12	NO	NO	1.2m	Earphone Cable
13	YES	NO	1.8m	USB Cable
14	YES	NO	1.8m	USB Cable
15	YES	NO	1.8m	Parallel Cable
16	YES	NO	1.8m	RS232 Cable

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## 4. EMC EMISSION TEST

## **4.1 CONDUCTED EMISSION MEASUREMENT**

## 4.1.1 POWER LINE CONDUCTED EMISSION (FREQUENCY RANGE 150KHZ-30MHZ)

FREQUENCY (MHz)	Class A	(dBuV)	Class B (dBuV)		
TINEQUEINOT (IVII IZ)	Quasi-peak	Average	Quasi-peak	Average	
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	
0.50 -5.0	73.00	60.00	56.00	46.00	
5.0 -30.0	73.00	60.00	60.00	50.00	

#### Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.
- (3) The test result calculated as following:

  Measurement Value = Reading Level + Correct Factor

  Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)

  Margin Level = Measurement Value Limit Value

## 4.1.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Measurement Software	Farad	EZ-EMC Ver.NB-03A 1-01	N/A	N/A
2	50Ω Terminator	SHX	TF2-3G-A	08122901	Mar. 26, 2018
3	TWO-LINE V-NETWORK	R&S	ENV216	100526	Mar. 26, 2018
4	EMI Test Receiver	R&S	ESR3	101862	Aug. 15, 2018
5	Artificial-Mains Network	SCHWARZBECK	NSLK 8127	8127685	Aug. 20, 2018
6	Cable	N/A	RG400 12m	N/A	Mar. 07, 2018

Remark: "N/A" denotes no model name, serial no. or calibration specified.

All calibration period of equipment list is one year.

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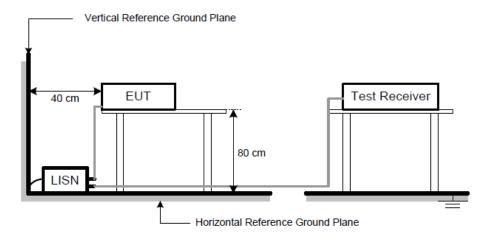
#### 4.1.3 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.
- f. First the whole spectrum of emission caused by equipment under test(EUT) is recorded with Detector set to peak. Peak value recorded in table if the margin from QP Limit is larger than 2dB,otherwise,QP value is recorded, Measuring frequency range from 150KHz to 30MHz.

## 4.1.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.1.5 TEST SETUP



#### 4.1.6 TEST RESULTS

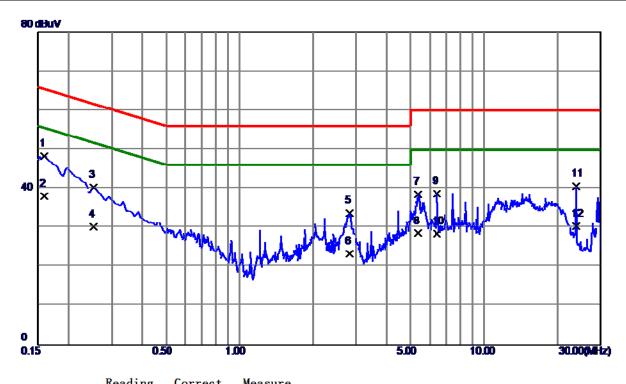
## Remark

- (1) Reading in which marked as QP means measurements by using are Quasi-Peak Mode with Detector BW=9KHz; SPA setting in RBW=10KHz, VBW =10KHz, Swp. Time = 0.3 sec./MHz 
  Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW=10KHz, VBW=10KHz, Swp. Time =0.3 sec./MHz.
- (2) All readings are QP Mode value unless otherwise stated AVG in column of <code>『Note』</code>. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform on this case, a " \* " marked in AVG Mode column of Interference Voltage Measured.





EUT	LCD Monitor	Model Name	X24P1			
Temperature	25°C	Relative Humidity	53%			
Test Voltage	AC 120V/60Hz	Phase	Line			
Test Mode	D-SUB 1920*1080/60Hz					
Note	Cable:1.8m					
Test Engineer	Jason Yang					



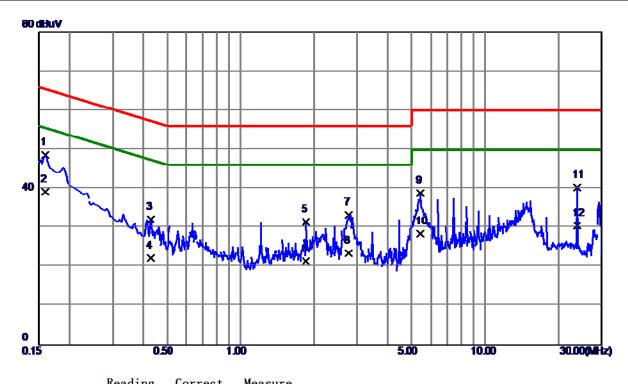
No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1 *	0.1590	38. 58	9. 68	48. 26	65. 52	-17. 26	QP
2	0.1590	28. 39	9. 68	38. 07	55. 52	-17.45	AVG
3	0. 2535	30.60	9. 69	40. 29	61.64	-21. 35	QP
4	0. 2535	20.60	9. 69	30. 29	51.64	-21. 35	AVG
5	2.8184	23. 92	9.89	33.81	<b>56. 00</b>	-22. 19	QP
6	2.8184	13. 51	9.89	23.40	46.00	-22. 60	AVG
7	5. 3811	28. 57	10.06	38. 63	60.00	-21. 37	QP
8	5. 3811	18. 5 <b>0</b>	10.06	28. 56	50.00	-21.44	AVG
9	6. 4252	28.63	10. 12	38. 75	60.00	-21. 25	QP
10	6. 4252	18. 40	10. 12	28. 52	<b>50.00</b>	-21.48	AVG
11	23.8110	29. 73	10.84	40. 57	60.00	-19. 43	QP
12	23.8110	19. 60	10.84	30. 44	50.00	-19. 56	AVG





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EUT	LCD Monitor	Model Name	X24P1			
Temperature	25°C	Relative Humidity	53%			
Test Voltage	AC 120V/60Hz	Phase	Neutral			
Test Mode	D-SUB 1920*1080/60Hz					
Note	Cable:1.8m					
Test Engineer	Jason Yang					



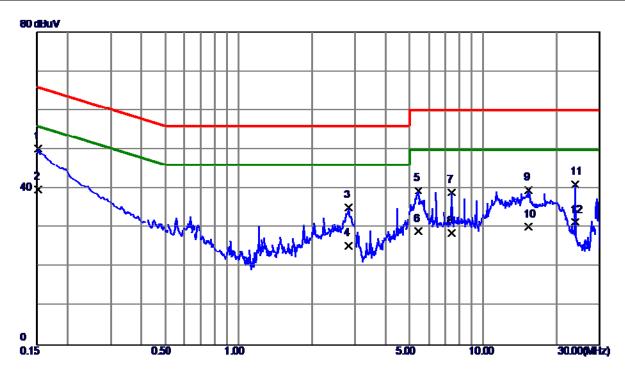
No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1	0.1590	39.02	9. 66	48.68	65. 52	-16. 84	QP
2 *	0.1590	29. 50	9. 66	39. 16	55. 52	-16. 36	AVG
3	0.4312	22. 50	9.71	32. 21	57. 23	-25. 02	QP
4	0.4312	12.49	9.71	22. 20	47.23	-25.03	AVG
5	1.8554	21.75	9.84	31. 59	<b>56. 00</b>	-24.41	QP
6	1.8554	11.60	9.84	21.44	46.00	-24. 56	AVG
7	2.7644	23.41	9.89	33. 30	<b>56.00</b>	-22.70	QP
8	2.7644	13.60	9.89	23.49	46.00	-22.51	AVG
9	5. 4375	28. 76	10.05	38. 81	60.00	-21. 19	QP
10	5. 4375	18. 40	10.05	28. 45	<b>50.00</b>	-21. 55	AVG
11	23.8110	29. 24	11.03	40. 27	60.00	-19. 73	QP
12	23.8110	19. 60	11.03	30. 63	50.00	-19. 37	AVG





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EUT	LCD Monitor	Model Name	X24P1			
Temperature	25°C	Relative Humidity	53%			
Test Voltage	AC 120V/60Hz	Phase	Line			
Test Mode	HDMI 1920*1080/60Hz					
Note	Cable:1.8m					
Test Engineer	Jason Yang					

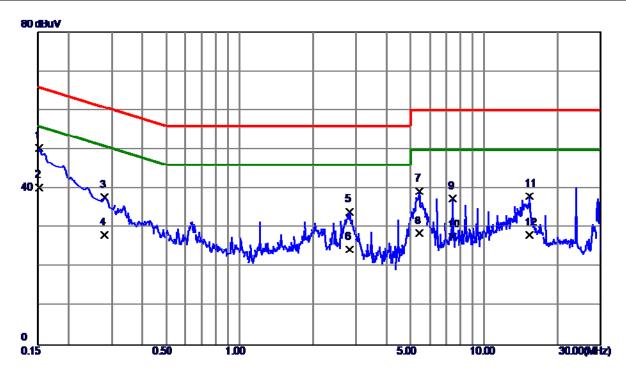


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1 *	0.1522	40. 54	9. 67	<b>50</b> . 21	65.88	-15. 67	QP
2	0. 1522	30. 20	9. 67	39.87	55.88	-16. 01	AVG
3	2.8140	25. 26	9.89	35. 15	<b>56. 00</b>	-20.85	QP
4	2.8140	15.61	9.89	<b>25. 50</b>	46.00	-20. 50	AVG
5	5. 4397	29.41	10.06	39. 47	60.00	-20. 53	QP
6	5. 4397	19. 10	10.06	29. 16	<b>50.00</b>	-20.84	AVG
7	7.4175	28. 80	10. 18	38. 98	60.00	-21.02	QP
8	7.4175	18. 50	10. 18	28.68	50.00	-21. 32	AVG
9	15. 3216	29. 21	10.47	39.68	60.00	-20. 32	QP
10	15. 3216	19. 81	10. 47	30. 28	50.00	-19.72	AVG
11	23.8110	30. 27	10.84	41. 11	60.00	-18.89	QP
12	23.8110	20.60	10.84	31.44	<b>50.00</b>	-18. 56	AVG





EUT	LCD Monitor	Model Name	X24P1			
Temperature	25°C	Relative Humidity	53%			
Test Voltage	AC 120V/60Hz	Phase	Neutral			
Test Mode	HDMI 1920*1080/60Hz					
Note	Cable:1.8m					
Test Engineer	Jason Yang					

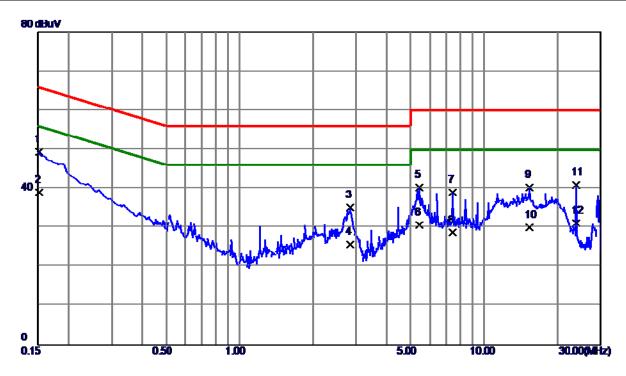


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1 *	0.1522	40.76	9. 66	50.42	65.88	-15. 46	QP
2	0.1522	30. 60	9. 66	40. 26	55.88	-15. 62	AVG
3	0.2803	28. 01	9. 68	37.69	60.81	-23. 12	QP
4	0. 2803	18. 50	9. 68	28. 18	<b>50</b> . 81	-22.63	AVG
5	2.8140	24. 17	9.89	34.06	<b>56. 00</b>	-21.94	QP
6	2.8140	14.60	9.89	24.49	46.00	-21.51	AVG
7	5. 4375	29. 24	10.05	39. 29	60.00	-20.71	QP
8	5. 4375	18. 51	10.05	28. 56	50.00	-21.44	AVG
9	7.4130	27. 19	10. 21	37.40	60.00	-22.60	QP
10	7.4130	17. 50	10. 21	27.71	50.00	-22. 29	AVG
11	15. 3216	27.44	10. 58	38. 02	60.00	-21. 98	QP
12	15. 3216	17. 60	10. 58	28. 18	50.00	-21.82	AVG





EUT	LCD Monitor	Model Name	X24P1			
Temperature	25°C	Relative Humidity	53%			
Test Voltage	AC 120V/60Hz	Phase	Line			
Test Mode	HDMI 1920*1080/60Hz					
Note	Cable:1.5m					
Test Engineer	Jason Yang					



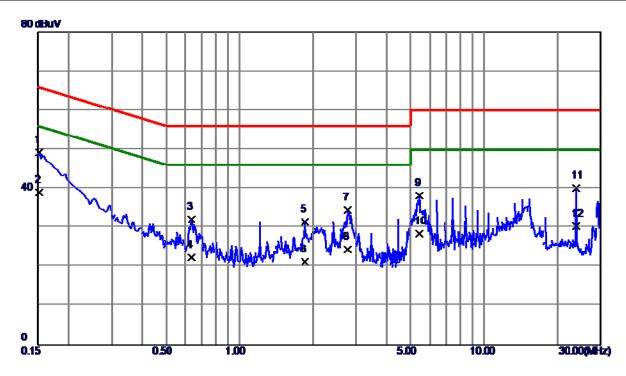
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1 *	0. 1522	39. 82	9. 67	49. 49	65.88	-16. 39	QP
2	0. 1522	29.40	9. 67	39. 07	55.88	-16.81	AVG
3	2.8230	25. 36	9.89	35. 25	56.00	-20.75	QP
4	2.8230	15. 91	9.89	25. 80	46.00	-20. 20	AVG
5	5. 4397	30. 22	10.06	40. 28	60.00	-19.72	QP
6	5. 4397	20.60	10.06	30.66	50.00	-19. 34	AVG
7	7.4151	28. 79	10. 18	38. 97	60.00	-21.03	QP
8	7.4151	18.60	10. 18	28. 78	50.00	-21. 22	AVG
9	15. 3216	29. 81	10.47	40. 28	60.00	-19.72	QP
10	15. 3216	19.61	10.47	30.08	50.00	-19. 92	AVG
11	23. 8110	30. 14	10.84	40. 98	60.00	-19.02	QP
12	23. 8110	20.40	10.84	31. 24	50.00	-18.76	AVG

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EUT	LCD Monitor	Model Name	X24P1			
Temperature	25°C	Relative Humidity	53%			
Test Voltage	AC 120V/60Hz	Phase	Neutral			
Test Mode	HDMI 1920*1080/60Hz					
Note	Cable:1.5m					
Test Engineer	Jason Yang					



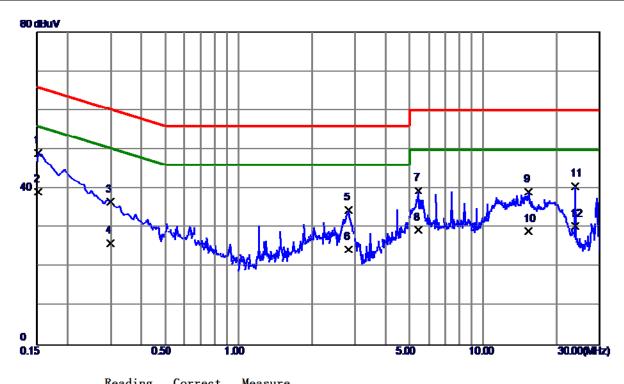
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1 *	0.1522	39. 58	9. 66	49. 24	65.88	-16. 64	QP
2	0.1522	29.40	9. 66	39.06	55.88	-16.82	AVG
3	0.6360	22. 38	9. 73	32. 11	56.00	-23.89	QP
4	0.6360	12.60	9. 73	22. 33	46.00	-23. 67	AVG
5	1.8531	21.70	9.84	31. 54	56.00	-24.46	QP
6	1.8531	11. 50	9.84	21. 34	46.00	-24.66	AVG
7	2.7576	24.67	9. 89	34. 56	56.00	-21.44	QP
8	2.7576	14.60	9. 89	24. 49	46.00	-21.51	AVG
9	5. 4375	28. 12	10.05	38. 17	60.00	-21.83	QP
10	5. 4375	18. 50	10. 05	28. 55	50.00	-21.45	AVG
11	23. 8110	29. 08	11.03	40. 11	60.00	-19.89	QP
12	23.8110	19. 40	11.03	30. 43	50.00	-19. 57	AVG





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EUT	LCD Monitor	Model Name	X24P1			
Temperature	25°C	Relative Humidity	53%			
Test Voltage	AC 120V/60Hz	Phase	Line			
Test Mode	HDMI 1920*1080/60Hz					
Note	Cable:1.2m					
Test Engineer	Jason Yang					



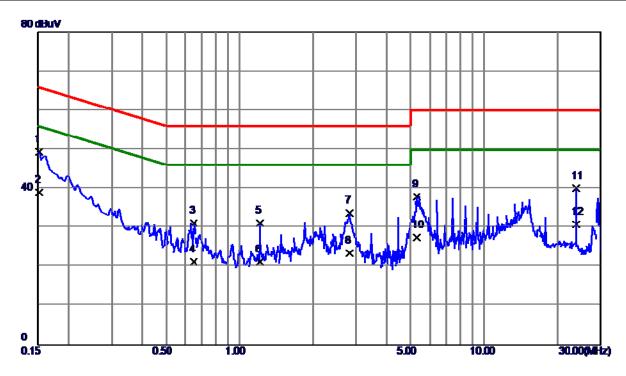
No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1	0. 1522	39. 40	9. 67	49.07	<b>65.</b> 88	-16. 81	QP
2 *	0.1522	29.60	9. 67	39. 27	55.88	-16. 61	AVG
3	0. 2985	26. 97	9. 69	36. 66	60. 28	-23.62	QP
4	0. 2985	16. 40	9. 69	26. 09	<b>50</b> . 28	-24. 19	AVG
5	2.8160	24.71	9. 89	34.60	<b>56. 00</b>	-21.40	QP
6	2.8160	14.61	9.89	24. 50	46.00	-21. 50	AVG
7	5.4375	29.46	10.06	39. 52	60.00	-20.48	QP
8	5.4375	19.40	10.06	29.46	50.00	<b>-20.54</b>	AVG
9	15. 3240	28.70	10. 47	39. 17	60.00	-20.83	QP
10	15. 3240	18.61	10. 47	29.08	50.00	-20. 92	AVG
11	23.8110	29.81	10.84	40.65	60.00	-19. 35	QP
12	23.8110	19. 50	10.84	30. 34	50.00	-19. 66	AVG





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EUT	LCD Monitor	Model Name	X24P1			
Temperature	25°C	Relative Humidity	53%			
Test Voltage	AC 120V/60Hz	Phase	Neutral			
Test Mode	HDMI 1920*1080/60Hz					
Note	Cable:1.2m					
Test Engineer	Jason Yang					



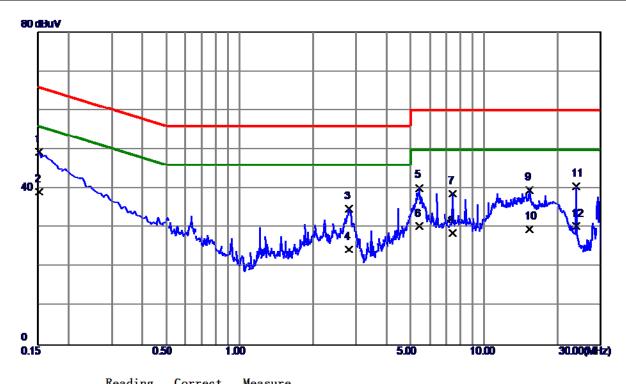
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1 *	0.1522	39.77	9. 66	49. 43	65.88	<b>-16.45</b>	QP
2	0.1522	29.40	9. 66	39.06	55.88	-16.82	AVG
3	0.6516	21.53	9. 74	31. 27	56.00	-24.73	QP
4	0.6516	11.60	9. 74	21. 34	46.00	-24.66	AVG
5	1. 2120	21.47	9. 79	31. 26	56.00	-24.74	QP
6	1. 2120	11. 50	9. 79	21. 29	46.00	-24.71	AVG
7	2.8140	23.90	9.89	33. 79	56.00	-22. 21	QP
8	2.8140	13.60	9.89	23. 49	46.00	-22. 51	AVG
9	5. 3160	27.81	10. 05	37.86	60.00	-22. 14	QP
10	5. 3160	17. 50	10.05	27. 55	50.00	-22.45	AVG
11	23. 8110	29. 05	11.03	40.08	60.00	-19. 92	QP
12	23.8110	19. 90	11. 03	30. 93	50.00	-19. 07	AVG





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EUT	LCD Monitor	Model Name	X24P1
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 120V/60Hz	Phase	Line
Test Mode	HDMI 1080P		
Note	Cable:1.8m		
Test Engineer	Jason Yang		



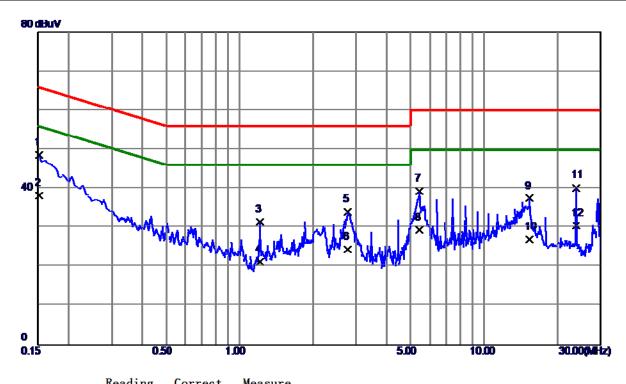
No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1 *	0.1522	39.83	9. 67	49. 50	65.88	-16. 38	QP
2	0.1522	29. 50	9. 67	39. 17	55.88	-16.71	AVG
3	2.8050	24.97	9. 89	34.86	<b>56. 00</b>	-21. 14	QP
4	2.8050	14.61	9. 89	24. 50	46.00	-21. 50	AVG
5	5. 4397	30. 18	10.06	40. 24	60.00	-19. 76	QP
6	5. 4397	20.40	10.06	30.46	50.00	-19. 54	AVG
7	7.4130	28. 59	10. 18	38.77	60.00	-21. 23	QP
8	7.4130	18.40	10. 18	28. 58	50.00	-21.42	AVG
9	15. 3216	29. 25	10. 47	39.72	60.00	-20. 28	QP
10	15. 3216	19. 21	10. 47	29. 68	50.00	-20. 32	AVG
11	23.8110	29.84	10.84	40.68	60.00	-19. 32	QP
12	23.8110	19. 60	10.84	30. 44	50.00	-19. 56	AVG





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EUT	LCD Monitor	Model Name	X24P1
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 120V/60Hz	Phase	Neutral
Test Mode	HDMI 1080P		
Note	Cable:1.8m		
Test Engineer	Jason Yang		



No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1 *	0.1522	38. 95	9. 66	48.61	65.88	-17.27	QP
2	0.1522	28.60	9. 66	38. 26	55.88	-17.62	AVG
3	1. 2096	21.73	9. 79	31. 52	56.00	-24.48	QP
4	1. 2096	11. 50	9. 79	21. 29	46.00	-24.71	AVG
5	2.7711	24. 22	9.89	34. 11	<b>56. 00</b>	-21.89	QP
6	2.7711	14.60	9.89	24.49	46.00	-21. 51	AVG
7	5.4375	29.30	10.05	39. 35	60.00	<b>-20.65</b>	QP
8	5.4375	19.40	10.05	29.45	50.00	<b>-20.</b> 55	AVG
9	15. 3216	26. 94	10. 58	37. 52	60.00	-22.48	QP
10	15. 3216	16. 50	10. 58	<b>27.08</b>	<b>50.00</b>	-22. 92	AVG
11	23.8110	29. 21	11.03	40. 24	60.00	-19. 76	QP
12	23.8110	19. 50	11.03	30. 53	50.00	-19. 47	AVG





## 4.2 RADIATED EMISSION MEASUREMENT

#### 4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Below 1 GHz

**Measurement Method and Applied Limits:** 

ANSI C63.4:

_	Class A	(at 10m)	Class B (at 3m)		
Frequency (MHz)	(uV/m) Field strength	(dBuV/m) Field strength	(uV/m) Field strength	(dBuV/m) Field strength	
30 - 88	90	39	100	40	
88 - 216	150	43.5	150	43.5	
216 - 960	210	46.4	200	46	
Above 960	300	49.5	500	54	

#### Above 1 GHz

# **Measurement Method and Applied Limits:**

# ANSI C63.4:

Frequency (MHz)		Clas	Class B			
	(dBuV/m) (at 3m)		(dBuV/m) (at 10m)		(dBuV/m) (at 3m)	
(IVITIZ)	Peak	Average	Peak	Average	Peak	Average
Above 1000	80	60	69.5	49.5	74	54

FREQUENCY RANGE OF RADIATED MEASUREMENT (FOR UNINTENTIONAL RADIATORS)

- KEQUEITO : 10 (10E OI 10 (20) (1EE ME) (00E	KEMEIT (1 OK OMITTEITHOUXE 18 KEKTOKO
Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 - 108	1000
108 - 500	2000
500 - 1000	5000
Above 1000	5 <sup>th</sup> harmonic of the highest frequency or 40 GHz, whichever is lower

### NOTE:

- (1) The limit for radiated test was performed according to as following: FCC Part 15, Subpart B; ICES-003 Issue 6: 2016.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m) = 20log Emission level (uV/m). 3m Emission level = 10m Emission level + 20log(10m/3m).
- (4) The test result calculated as following:

  Measurement Value = Reading Level + Correct Factor

  Correct Factor = Antenna Factor + Cable Loss Amplifier Gain(if use)

  Margin Level = Measurement Value Limit Value





## **4.2.2 MEASUREMENT INSTRUMENTS LIST**

## Below 1GHz:

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Pre-Amplifier	Mini-Circuits	EMC 9135	980284	Mar. 26, 2018
2	Pre-Amplifier	Mini-Circuits	EMC 9135	980283	Mar. 26, 2018
3	Trilog-Broadband Antenna	Schwarzbeck	VULB9168	586	Mar. 26, 2018
4	Trilog-Broadband Antenna	Schwarzbeck	VULB9168	587	Mar. 26, 2018
5	Cable	emci	LMR-400(5m +11m+15m)	N/A	Nov. 03, 2018
6	Cable	emci	LMR-400(5m +8m+15m)	N/A	Nov. 03, 2018
7	Measurement Software	Farad	EZ-EMC Ver.BTL-2AN T-1	N/A	N/A
8	Multi-Device Controller	ETS-Lindgren	2090	N/A	N/A
9	Attenuator	N/A	SA18N-06	6dB	Apr. 14, 2018
10	Attenuator	N/A	SA18N-06	6dB	Apr. 14, 2018
11	Receiver	Keysight	N9038A	MY54450004	Aug. 15, 2018
12	MXE EMI Receiver	Agilent	N9038A	MY53220133	Jun. 20, 2018

Remark: "N/A" denotes no model name, no serial no. or no calibration specified.

All calibration period of equipment list is one year.

# Above 1GHz:

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Measurement Software	Farad	EZ-EMC Ver.BTL-2AN T-1	N/A	N/A
2	Cable	emci	SUCOFLEX_ 15m_5m(0.01 GHz- 26.5GHz)	N/A	Nov. 03, 2018
3	Multi-Device Controller	ETS-Lindgren	2090	N/A	N/A
4	Controller	MF	MF-7802	MF780208159	N/A
5	Horn Antenna	EMCO	3115	9605-4803	Mar. 26, 2018
6	Amplifier	Agilent	8449B	3008A02584	Aug. 20, 2018
7	MXE EMI Receiver	Agilent	N9038A	MY53220133	Jun. 20, 2018

Remark: "N/A" denotes no model name, serial no. or calibration specified.

All calibration period of equipment list is one year.

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#### 4.2.3 TEST PROCEDURE

- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- c. The height of the equipment or of the substitution antenna shall be 0.8 m, the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1GHz.
- f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1GHz)
- h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1GHz)
- i. For the actual test configuration, please refer to the related Item Block Diagram of system tested (please refer to 3.3).

#### 4.2.4 DEVIATION FROM TEST STANDARD

No deviation

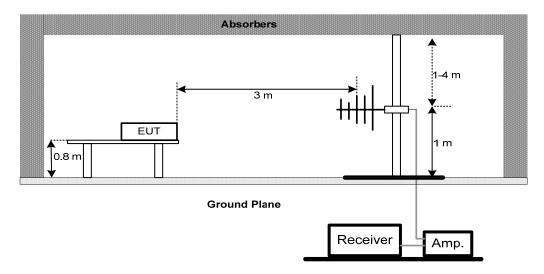
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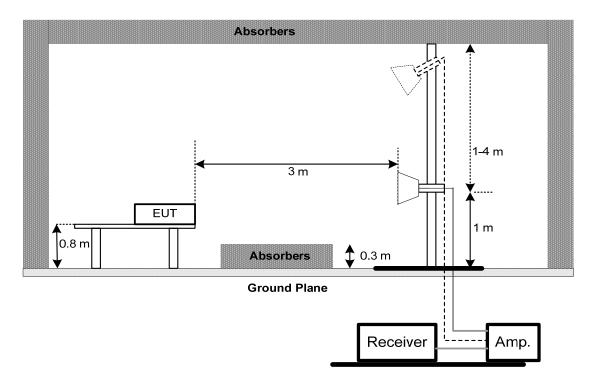


## 4.2.5 TEST SETUP

(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



(B) Radiated Emission Test Set-Up Frequency Above 1 GHz



# **4.2.6 TEST RESULTS-BELOW 1GHZ**

## Remark:

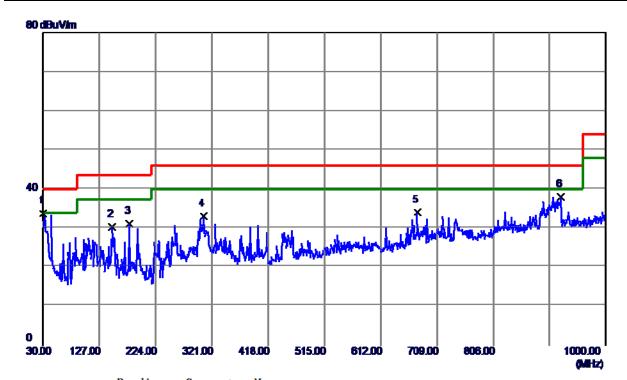
- (1) All readings are Peak unless otherwise stated QP in column of 『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform  $\circ$
- (2) Measuring frequency range from 30MHz to 1000MHz o
- (3) If the peak scan value lower limit more than 20dB, then this signal data does not show in table  $\circ$

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EUT	LCD Monitor	Model Name	X24P1			
Temperature	25°C	Relative Humidity	60%			
Test Voltage	AC 120V/60Hz	Polarization	Vertical			
Test Mode	D-SUB 1920*1080/60Hz					
Note	Cable:1.8m					
Test Engineer	Jason Yang					
Panel(Brand/Model)	Н					

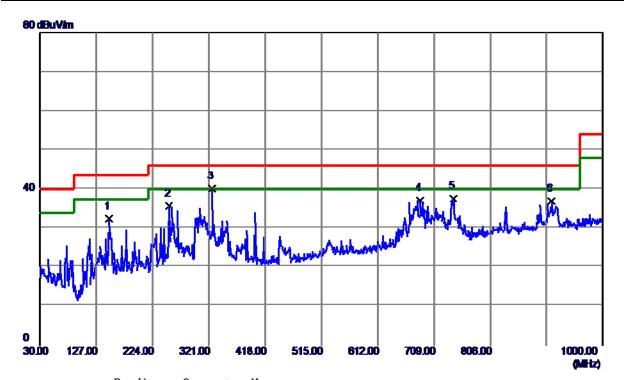


No.	Freq.	Level	Factor	measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1 *	30.0000	47.87	-14.03	33. 84	40.00	-6. 16	QP
2	148. 3400	42.45	-12. 09	30. 36	43. 50	-13. 14	QP
3	178. 4100	42. 58	-11. 38	31. 20	43.50	-12.30	QP
4	306. 4500	43.62	-10. 46	33. 16	46.00	-12.84	QP
5	675. 0500	35. 68	-1. 56	34. 12	46.00	-11.88	QP
6	922. 4000	34.91	3. 18	38. 09	46.00	-7. 91	QP





EUT	LCD Monitor	Model Name	X24P1
Temperature	25°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz	Polarization	Horizontal
Test Mode	D-SUB 1920*1080/60Hz		
Note	Cable:1.8m		
Test Engineer	Jason Yang		
Panel(Brand/Model)	Н		



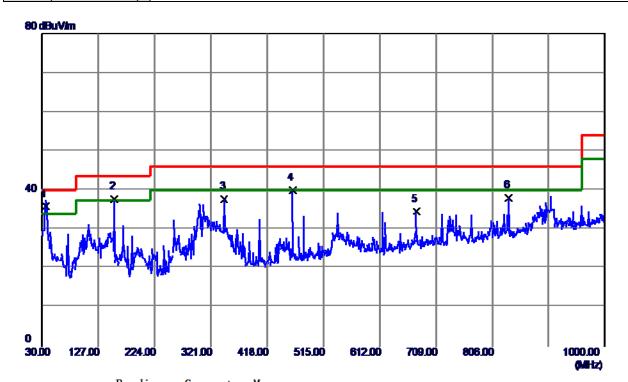
No.	Freq.	Keading Level	Correct Factor	measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	148. 3400	44.49	-12. 09	32. 40	43. 50	-11. 10	QP
2	252. 1300	49.02	-13. 29	35. 73	46.00	-10. 27	QP
3 *	326. 8200	50.08	-9. 97	40. 11	46.00	-5. 89	QP
4	685.7199	38. 48	-1. 29	37. 19	46.00	-8.81	QP
5	741. 9800	37.77	-0. 21	37. 56	46.00	-8.44	QP
6	911.7300	33. 93	3. 05	36. 98	46.00	-9.02	QP

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EUT	LCD Monitor	Model Name	X24P1			
Temperature	25°C	Relative Humidity	60%			
Test Voltage	AC 120V/60Hz	Polarization	Vertical			
Test Mode	HDMI 1920*1080/60Hz					
Note	Cable:1.8m					
Test Engineer	Jason Yang					
Panel(Brand/Model)	Н					



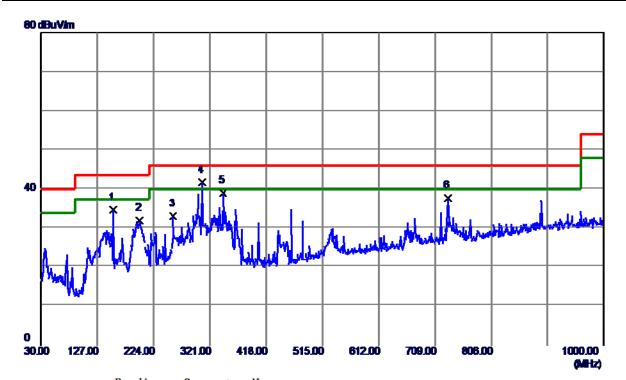
No.	Freq.	keading Level	Correct Factor	measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1 *	36. 7900	48. 79	-12. 99	35. 80	40.00	-4. 20	QP
2	154. 1600	49. 61	-11.82	37. 79	43. 50	-5.71	QP
3	343. 3100	47. 39	<b>−9.</b> 58	37.81	46.00	-8. 19	QP
4	461.6500	46. 68	-6. 61	40.07	46.00	-5. 93	QP
5	675.0500	36. 06	-1. 56	34. 50	46.00	<b>−11. 50</b>	QP
6	834. 1300	36. 50	1.61	38. 11	46.00	-7.89	QP

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EUT	LCD Monitor	Model Name	X24P1			
Temperature	25°C	Relative Humidity	60%			
Test Voltage	AC 120V/60Hz	Polarization	Horizontal			
Test Mode	HDMI 1920*1080/60Hz					
Note	Cable:1.8m					
Test Engineer	Jason Yang					
Panel(Brand/Model)	Н					

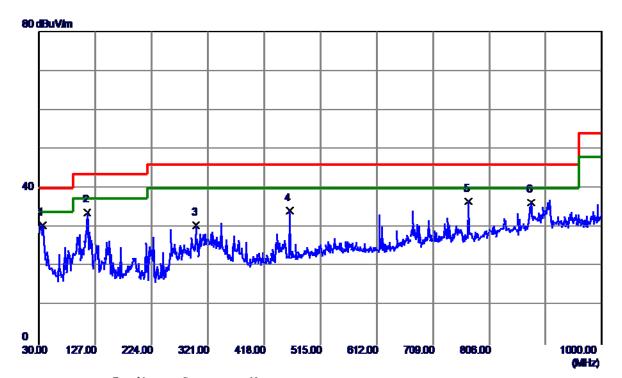


No.	Freq.	Keading Level	Correct Factor	measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	154. 1600	46. 60	-11.82	34. 78	43.50	-8.72	QP
2	199. 7500	44. 10	-12. 10	32.00	43.50	-11. 50	QP
3	257. 9500	46. 55	<b>-13.50</b>	33. 05	46.00	-12. 95	QP
4 *	308. 3900	52. 19	-10.41	41.78	46.00	-4.22	QP
5	343. 3100	48.65	-9. 58	39. 07	46.00	-6. 93	QP
6	731. 3100	38. 11	-0. 39	37. 72	46.00	-8. 28	QP





EUT	LCD Monitor	Model Name	X24P1				
Temperature	25°C	Relative Humidity	60%				
Test Voltage	AC 120V/60Hz	Polarization	Vertical				
Test Mode	HDMI 1920*1080/60Hz						
Note	Cable:1.5m						
Test Engineer	Jason Yang						
Panel(Brand/Model)	Н						

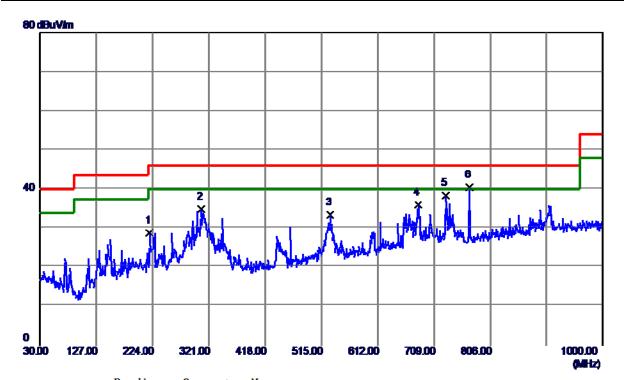


No.	Freq.	Keading Level	Correct Factor	measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	36. 7900	43. 55	-12. 99	30. 56	40.00	-9. 44	QP
2	113. 4200	48.48	-14.64	33.84	43. 50	-9. 66	QP
3	300.6300	41. 20	-10.60	30. 60	46.00	-15.40	QP
4	461.6500	40.88	-6. 61	34. 27	46.00	-11. 73	QP
5 *	770. 1100	36. 39	0. 31	36. 70	46.00	-9. 30	QP
6	877. 7800	33. 92	2.48	36. 40	46.00	-9. 60	QP





EUT	LCD Monitor	Model Name	X24P1				
Temperature	25°C	Relative Humidity	60%				
Test Voltage	AC 120V/60Hz	Polarization	Horizontal				
Test Mode	HDMI 1920*1080/60Hz						
Note	Cable:1.5m						
Test Engineer	Jason Yang						
Panel(Brand/Model)	н						



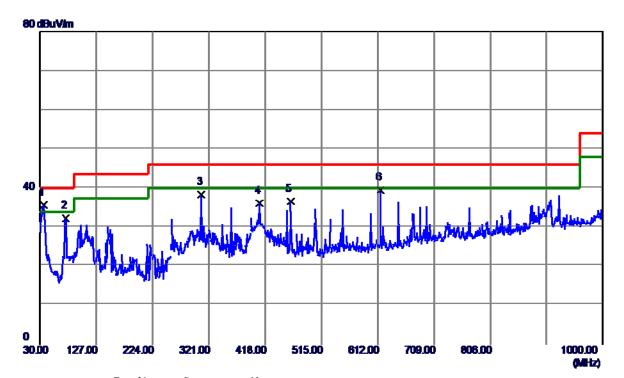
No.	Freq.	Keading Level	Correct Factor	measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	219. 1500	42. 33	-13. 50	28. 83	46.00	-17. 17	QP
2	308. 3900	45. 28	-10.41	34.87	46.00	-11. 13	QP
3	530. 5200	38. 40	-4.94	33. 46	46.00	-12. 54	QP
4	681.8400	37. 38	-1. 39	35. 99	46.00	-10.01	QP
5	729. 3700	38.82	-0.42	38. 40	46.00	-7.60	QP
6 *	770. 1100	40. 24	0. 31	40. 55	46.00	-5. 45	QP

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EUT	LCD Monitor	Model Name	X24P1				
Temperature	25°C	Relative Humidity	60%				
Test Voltage	AC 120V/60Hz	Polarization	Vertical				
Test Mode	HDMI 1920*1080/60Hz						
Note	Cable:1.2m						
Test Engineer	Jason Yang						
Panel(Brand/Model)	Н						



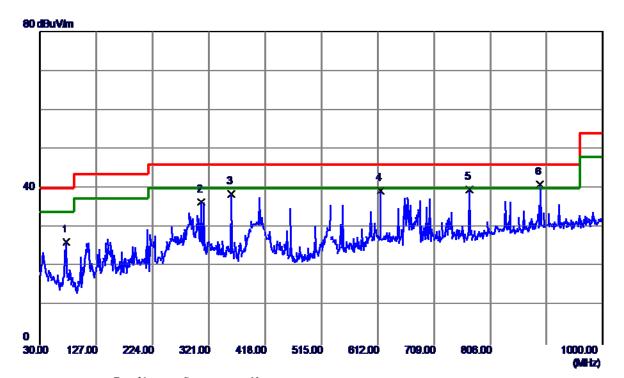
No.	Freq.	Keading Level	Correct Factor	measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1 *	36. 7900	48. 68	-12. 99	35. 69	40.00	-4.31	QP
2	74.6200	47.97	-15. 61	32. 36	40.00	-7.64	QP
3	308. 3900	48. 75	-10.41	38. 34	46.00	-7. 66	QP
4	408. 3000	44.00	<b>-7.91</b>	36.09	46.00	-9. 91	QP
5	461.6500	43. 27	-6. 61	36.66	46.00	-9. 34	QP
6	615. 8800	42.68	-3. 17	39. 51	46.00	-6. 49	QP





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EUT	LCD Monitor	Model Name	X24P1				
Temperature	25°C	Relative Humidity	60%				
Test Voltage	AC 120V/60Hz	Polarization	Horizontal				
Test Mode	HDMI 1920*1080/60Hz						
Note	Cable:1.2m						
Test Engineer	Jason Yang						
Panel(Brand/Model)	Н						

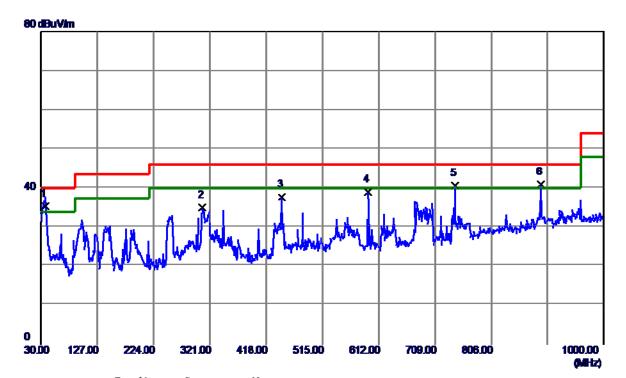


No.	Freq.	Keading Level	Correct Factor	measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	75. 5899	42.09	-15. 79	26. 30	40.00	-13. 70	QP
2	308. 3900	46. 94	-10.41	36. 53	46.00	-9. 47	QP
3	359. 8000	47.76	-9. 17	38. 59	46.00	-7.41	QP
4	615. 8800	42. 56	-3. 17	39. 39	46.00	-6. 61	QP
5	770. 1100	39. 44	0.31	39. 75	46.00	<b>-6. 25</b>	QP
6 *	891. 3600	38. 20	2.74	40.94	46.00	<b>−5. 06</b>	QP





EUT	LCD Monitor	Model Name	X24P1				
Temperature	25°C	Relative Humidity	60%				
Test Voltage	AC 120V/60Hz	Polarization	Vertical				
Test Mode	HDMI 1080P						
Note	Cable:1.8m						
Test Engineer	Jason Yang						
Panel(Brand/Model)	Н						

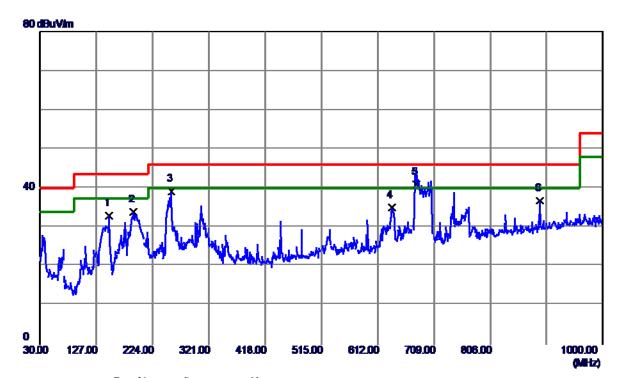


No.	Freq.	Level	Factor	measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1 *	37. 7599	48. 30	-12.89	35. 41	40.00	<b>-4.</b> 59	QP
2	308. 3900	45. 51	-10.41	35. 10	46.00	-10.90	QP
3	445. 1600	44.77	-6. 99	37.78	46.00	-8. 22	QP
4	593. 5700	42.76	-3.73	39. 03	46.00	-6. 97	QP
5	742. 9500	40. 90	-0. 19	40.71	46.00	<b>−5. 29</b>	QP
6	891. 3600	38. 15	2.74	40.89	46.00	-5. 11	QP





EUT	LCD Monitor	Model Name	X24P1			
Temperature	25°C	Relative Humidity	60%			
Test Voltage	AC 120V/60Hz	Polarization	Horizontal			
Test Mode	HDMI 1080P					
Note	Cable:1.8m					
Test Engineer	Jason Yang					
Panel(Brand/Model)	Н					



No.	Freq.	Keading Level	Correct Factor	measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	148. 3400	45. 04	-12. 09	32. 95	43. 50	-10. 55	QP
2	191. 0200	45. 46	-11. 54	33. 92	43.50	<b>-9.</b> 58	QP
3	256. 0100	52. 69	-13.43	39. 26	46.00	-6. 74	QP
4	636. 2500	37.62	-2. 59	35. 03	46.00	-10. 97	QP
5 *	678. 9300	42.49	-1.46	41.03	46.00	<b>-4.97</b>	QP
6	891. 3600	33. 99	2.74	36. 73	46.00	-9. 27	QP

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## **4.2.7 TEST RESULTS-ABOVE 1GHZ**

## Remark:

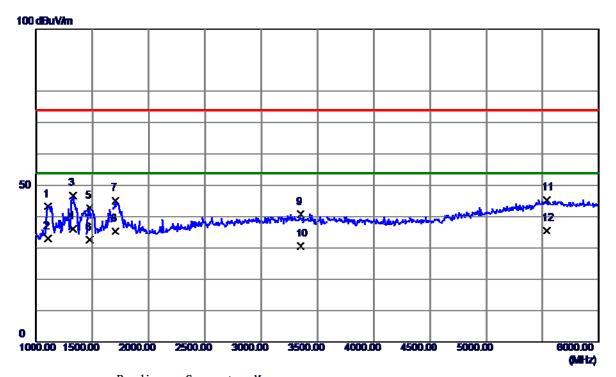
- (1) All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.
- (2) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission.
- (3) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

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EUT	LCD Monitor	Model Name	X24P1					
Temperature	25°C	Relative Humidity	60%					
Test Voltage	AC 120V/60Hz	Polarization	Vertical					
Test Mode	D-SUB 1920*1080/60Hz	D-SUB 1920*1080/60Hz						
Note	Cable:1.8m							
Test Engineer	Jason Yang							
Panel(Brand/Model)	Н							



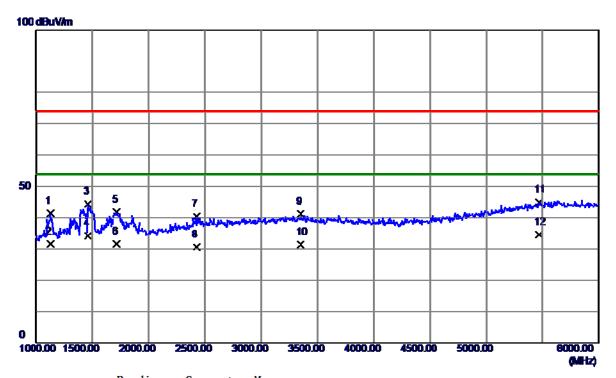
Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1105.0000	48. 08	-4.78	43. 30	74.00	-30.70	Peak
1105.0000	37.80	-4.78	33. 02	54.00	-20. 98	AVG
1330.0000	50. 32	-3. 55	46. 77	74.00	-27. 23	Peak
1330.0000	39. 73	-3. 55	36. 18	54.00	-17.82	AVG
1480.0000	45. 61	-2.73	42.88	74.00	-31. 12	Peak
1480.0000	35. 40	-2.73	32. 67	54.00	-21. 33	AVG
1705.0000	47.43	-2. 19	45. 24	74.00	-28. 76	Peak
1705.0000	37.61	-2. 19	35. 42	54.00	-18. 58	AVG
3347.5000	35. 63	5. 21	40.84	74.00	-33. 16	Peak
3347. 5000	25. 48	5. 21	30. 69	54.00	-23. 31	AVG
5537. 5000	31. 59	13.84	45. 43	74.00	-28. 57	Peak
5537. 5000	21.84	13.84	35. 68	54.00	-18. 32	AVG
	MHz 1105.0000 1105.0000 1330.0000 1330.0000 1480.0000 1705.0000 1705.0000 3347.5000 5537.5000	Freq. Level	MHz         dBuV/m         dB           1105.0000         48.08         -4.78           1105.0000         37.80         -4.78           1330.0000         50.32         -3.55           1330.0000         39.73         -3.55           1480.0000         45.61         -2.73           1480.0000         35.40         -2.73           1705.0000         47.43         -2.19           1705.0000         35.63         5.21           3347.5000         25.48         5.21           5537.5000         31.59         13.84	MHz         Level dBuV/m         Factor dB uV/m         ment dB uV/m           1105.0000 48.08         -4.78         43.30           1105.0000 37.80         -4.78         33.02           1330.0000 50.32         -3.55         46.77           1330.0000 39.73         -3.55         36.18           1480.0000 45.61         -2.73         42.88           1480.0000 35.40         -2.73         32.67           1705.0000 47.43         -2.19         45.24           1705.0000 37.61         -2.19         35.42           3347.5000 35.63         5.21         40.84           3347.5000 25.48         5.21         30.69           5537.5000 31.59         13.84         45.43	MHz         dBuV/m         dB         dBuV/m         dBuV/m           1105.0000         48.08         -4.78         43.30         74.00           1105.0000         37.80         -4.78         33.02         54.00           1330.0000         50.32         -3.55         46.77         74.00           1330.0000         39.73         -3.55         36.18         54.00           1480.0000         45.61         -2.73         42.88         74.00           1480.0000         35.40         -2.73         32.67         54.00           1705.0000         47.43         -2.19         45.24         74.00           1705.0000         37.61         -2.19         35.42         54.00           3347.5000         35.63         5.21         40.84         74.00           5537.5000         31.59         13.84         45.43         74.00	MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB           1105.0000         48.08         -4.78         43.30         74.00         -30.70           1105.0000         37.80         -4.78         33.02         54.00         -20.98           1330.0000         50.32         -3.55         46.77         74.00         -27.23           1330.0000         39.73         -3.55         36.18         54.00         -17.82           1480.0000         45.61         -2.73         42.88         74.00         -31.12           1480.0000         35.40         -2.73         32.67         54.00         -21.33           1705.0000         47.43         -2.19         45.24         74.00         -28.76           1705.0000         37.61         -2.19         35.42         54.00         -18.58           3347.5000         35.63         5.21         40.84         74.00         -33.16           3347.5000         25.48         5.21         30.69         54.00         -23.31           5537.5000         31.59         13.84         45.43         74.00         -28.57

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EUT	LCD Monitor	Model Name	X24P1			
Temperature	25°C	Relative Humidity	60%			
Test Voltage	AC 120V/60Hz	Polarization	Horizontal			
Test Mode	D-SUB 1920*1080/60Hz					
Note	Cable:1.8m					
Test Engineer	Jason Yang					
Panel(Brand/Model)	Н					

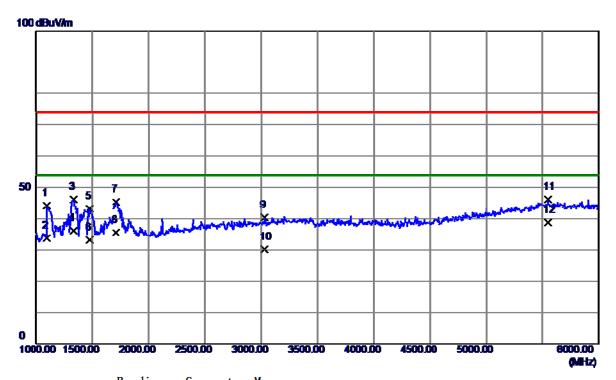


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	1125.0000	46.08	-4.67	41.41	74.00	-32.59	Peak
2	1125.0000	36. 24	-4.67	31. 57	54.00	-22.43	AVG
3	1460.0000	47. 26	-2.84	44.42	74.00	-29. 58	Peak
4	1460.0000	37.02	-2.84	34. 18	54.00	-19.82	AVG
5	1715. 0000	44.06	-2. 17	41.89	74.00	-32. 11	Peak
6	1715. 0000	33. 86	-2. 17	31. 69	54.00	-22. 31	AVG
7	2425.0000	39. 03	1.43	40. 46	74.00	-33.54	Peak
8	2425.0000	29. 15	1.43	30. 58	54.00	-23.42	AVG
9	3350.0000	36.00	5. 21	41. 21	74.00	-32. 79	Peak
10	3350.0000	26. 26	5. 21	31. 47	54.00	-22. 53	AVG
11	5465.0000	31. 39	13. 59	44. 98	74.00	-29.02	Peak
12 *	5465. 0000	20. 99	13. 59	34. 58	54.00	-19.42	AVG





EUT	LCD Monitor	Model Name	X24P1					
Temperature	25°C	Relative Humidity	60%					
Test Voltage	AC 120V/60Hz	Polarization	Vertical					
Test Mode	HDMI 1920*1080/60Hz	HDMI 1920*1080/60Hz						
Note	Cable:1.8m							
Test Engineer	Jason Yang							
Panel(Brand/Model)	Н							

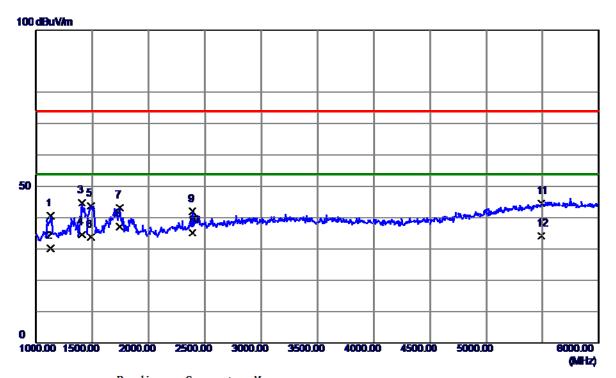


No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	1095.0000	49.09	-4.83	44. 26	74.00	-29.74	Peak
2	1095.0000	38. 64	-4.83	33.81	54.00	-20. 19	AVG
3	1332. 5000	49.75	-3. 53	46. 22	74.00	-27. 78	Peak
4	1332. 5000	39.71	-3. 53	36. 18	54.00	-17.82	AVG
5	1477. 5000	46.03	-2.74	43. 29	74.00	-30.71	Peak
6	1477. 5000	35. 99	-2.74	33. 25	54.00	<b>-20.75</b>	AVG
7	1712. 5000	47. 59	-2. 17	45. 42	74.00	-28. 58	Peak
8	1712. 5000	37.79	-2. 17	35. 62	54.00	-18. 38	AVG
9	3027.5000	35. 92	4.44	40. 36	74.00	-33. 64	Peak
10	3027.5000	25.71	4.44	30. 15	54.00	-23.85	AVG
11	5547. 5000	32. 32	13.84	46. 16	74.00	-27.84	Peak
12 *	5547. 5000	24. 89	13.84	38. 73	54.00	-15. 27	AVG





EUT	LCD Monitor	Model Name	X24P1			
Temperature	25°C	Relative Humidity	60%			
Test Voltage	AC 120V/60Hz	Polarization	Horizontal			
Test Mode	HDMI 1920*1080/60Hz					
Note	Cable:1.8m					
Test Engineer	Jason Yang					
Panel(Brand/Model)	Н					

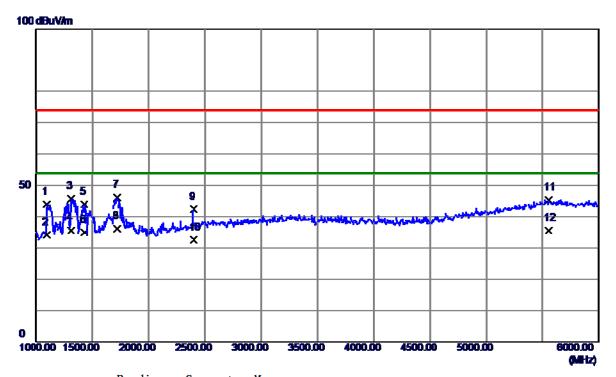


No.	Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	1130.0000	45. 16	-4.64	40. 52	74.00	-33. 48	Peak
2	1130.0000	34.92	-4.64	30. 28	54.00	-23.72	AVG
3	1407. 5000	47.91	-3. 13	44.78	74.00	-29. 22	Peak
4	1407. 5000	37.78	-3. 13	34.65	54.00	-19. 35	AVG
5	1487. 5000	46. 55	-2. 69	43.86	74.00	-30. 14	Peak
6	1487. 5000	36. 53	-2. 69	33. 84	54.00	-20. 16	AVG
7	1745. 0000	45. 38	-2. 11	43. 27	74.00	-30. 73	Peak
8 *	1745. 0000	39. 26	-2. 11	37. 15	54.00	-16.85	AVG
9	2390.0000	40.87	1. 18	42.05	74.00	-31. 95	Peak
10	2390.0000	34.06	1. 18	35. 24	54.00	-18. 76	AVG
11	5487. 5000	30. 79	13. 76	44. 55	74.00	-29. 45	Peak
12	5487. 5000	20. 46	13. 76	34. 22	54.00	-19. 78	AVG





EUT	LCD Monitor	Model Name	X24P1					
Temperature	25°C	Relative Humidity	60%					
Test Voltage	AC 120V/60Hz	Polarization	Vertical					
Test Mode	HDMI 1920*1080/60Hz	HDMI 1920*1080/60Hz						
Note	Cable:1.5m							
Test Engineer	Jason Yang							
Panel(Brand/Model)	Н							



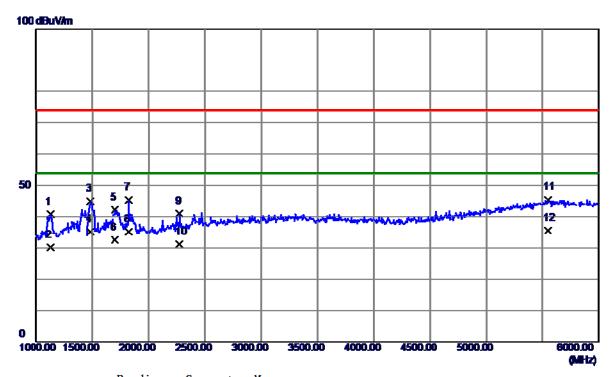
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	1095.0000	48.88	-4.83	44.05	74.00	-29. 95	Peak
2	1095.0000	39. 01	-4.83	34. 18	54.00	-19.82	AVG
3	1312. 5000	49. 40	-3.64	45. 76	74.00	-28. 24	Peak
4	1312. 5000	39. 26	-3.64	35. 62	54.00	-18. 38	AVG
5	1430.0000	47.01	-3.00	44.01	74.00	-29. 99	Peak
6	1430.0000	37.97	-3.00	34. 97	54.00	-19.03	AVG
7	1720.0000	48. 29	-2. 16	46. 13	74.00	-27.87	Peak
8 *	1720.0000	38. 44	-2. 16	36. 28	54.00	-17.72	AVG
9	2397. 5000	41. 23	1. 23	42.46	74.00	-31. 54	Peak
10	2397. 5000	31.41	1. 23	32. 64	54.00	-21. 36	AVG
11	5555. 0000	31. 54	13.84	45. 38	74.00	-28.62	Peak
12	5555. 0000	21.85	13.84	35. 69	54.00	-18. 31	AVG

Report No.: BTL-FICE-1-1801C228





EUT	LCD Monitor	Model Name	X24P1				
Temperature	25°C	Relative Humidity	60%				
Test Voltage	AC 120V/60Hz Polarization Horizontal						
Test Mode	HDMI 1920*1080/60Hz						
Note	Cable:1.5m						
Test Engineer	Jason Yang						
Panel(Brand/Model)	Н						

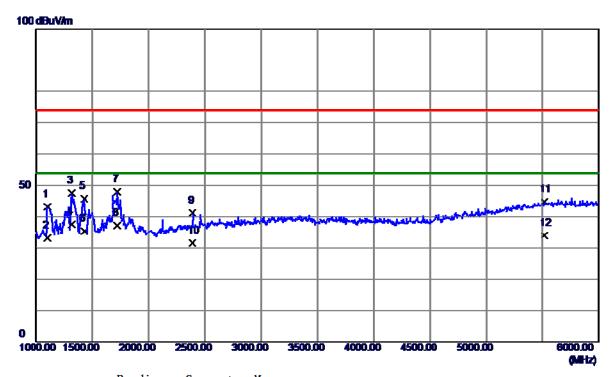


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	1125. 0000	45. 53	-4.67	40.86	74.00	-33. 14	Peak
2	1125.0000	34.87	-4.67	30. 20	54.00	-23.80	AVG
3	1485. 0000	47.73	-2.70	45. 03	74.00	-28. 97	Peak
4	1485. 0000	37. 98	-2.70	35. 28	54.00	-18.72	AVG
5	1700.0000	44.49	-2. 20	42. 29	74.00	-31.71	Peak
6	1700.0000	34.89	-2. 20	32. 69	54.00	-21. 31	AVG
7	1822. 5000	47. 35	-1.94	45. 41	74.00	<b>-28.59</b>	Peak
8	1822. 5000	37. 11	-1. 94	35. 17	54.00	-18.83	AVG
9	2275.0000	40.71	0. 37	41.08	74.00	-32.92	Peak
10	2275. 0000	30. 87	0. 37	31. 24	54.00	-22. 76	AVG
11	5550. 0000	31.66	13.84	<b>45. 50</b>	74.00	-28. <b>50</b>	Peak
12 *	5550. 0000	21. 78	13.84	35. 62	54.00	-18. 38	AVG





EUT	LCD Monitor	X24P1					
Temperature	25°C	Relative Humidity	60%				
Test Voltage	AC 120V/60Hz Polarization Vertical						
Test Mode	HDMI 1920*1080/60Hz						
Note	Cable:1.2m						
Test Engineer	Jason Yang						
Panel(Brand/Model)	Н						

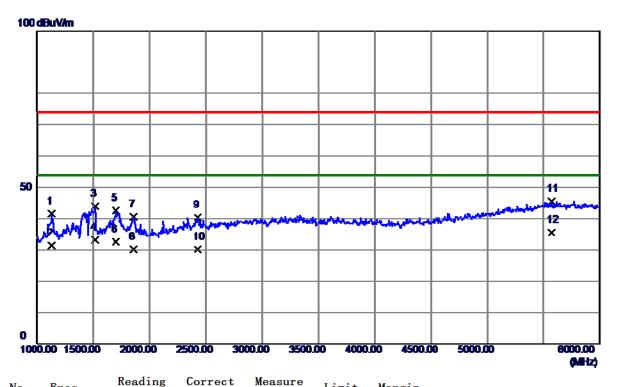


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	1102. 5000	47.99	-4. 79	43. 20	74.00	-30.80	Peak
2	1102. 5000	38. 07	-4. 79	33. 28	54.00	-20.72	AVG
3	1315. 0000	51. 21	-3. 63	47. 58	74.00	-26. 42	Peak
4 *	1315. 0000	41. 28	-3. 63	37.65	54.00	-16. 35	AVG
5	1425. 0000	48.88	-3. 03	45. 85	74.00	-28. 15	Peak
6	1425. 0000	38. 48	-3.03	35. 45	54.00	-18. 55	AVG
7	1720.0000	50.11	-2. 16	47. 95	74.00	-26. 05	Peak
8	1720.0000	39. 45	-2. 16	37. 29	54.00	-16.71	AVG
9	2390.0000	40.06	1. 18	41. 24	74.00	-32. 76	Peak
10	2390.0000	30. 47	1. 18	31.65	54.00	-22. 35	AVG
11	5517. 5000	30. 87	13.85	44.72	74.00	-29. 28	Peak
12	5517. 5000	20. 17	13.85	34.02	54.00	-19. 98	AVG





EUT	LCD Monitor	Model Name	X24P1				
Temperature	25°C	Relative Humidity	60%				
Test Voltage	AC 120V/60Hz Polarization Horizontal						
Test Mode	HDMI 1920*1080/60Hz						
Note	Cable:1.2m						
Test Engineer	Jason Yang						
Panel(Brand/Model)	Н						

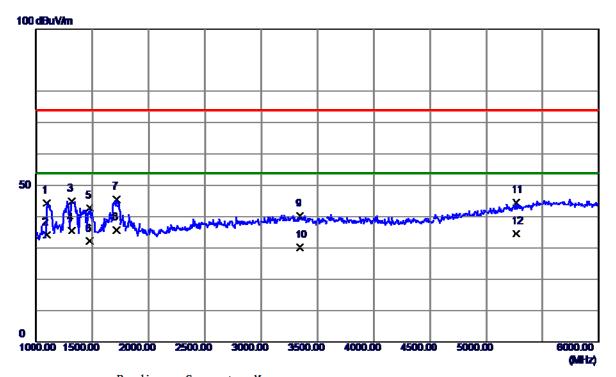


n dBuV/m dB Detector 74.00 -32.42 Peak 54.00 -22.53 AVG 74.00 -30.02 Peak
54.00 -22.53 AVG
74 00 -30 02 Peak
11.00 00.02 1 can
54.00 -20.75 AVG
74.00 -31.45 Peak
54.00 -21.31 AVG
74.00 -33.43 Peak
54.00 -23.83 AVG
74.00 -33.60 Peak
54.00 -23.72 AVG
74.00 -28.45 Peak
. 1. 00 Bo. 10 Tour





EUT	LCD Monitor	Model Name	X24P1				
Temperature	25°C	Relative Humidity	60%				
Test Voltage	AC 120V/60Hz Polarization Vertical						
Test Mode	HDMI 1080P						
Note	Cable:1.8m						
Test Engineer	Jason Yang						
Panel(Brand/Model)	Н						

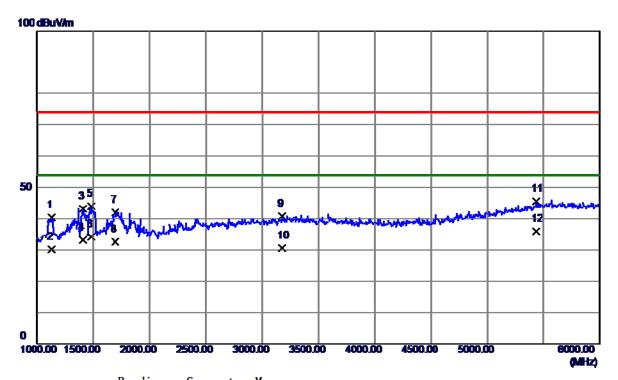


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	1095. 0000	49. 29	-4.83	44.46	74.00	-29.54	Peak
2	1095. 0000	39. 01	-4.83	34. 18	54.00	-19.82	AVG
3	1317. 5000	48.66	-3.62	45. 04	74.00	-28. 96	Peak
4	1317. 5000	39. 27	-3.62	35. 65	54.00	-18. 35	AVG
5	1477. 5000	45. 57	-2.74	42.83	74.00	-31. 17	Peak
6	1477. 5000	34.88	-2.74	32. 14	54.00	-21.86	AVG
7	1715. 0000	47.72	-2. 17	45. 55	74.00	<b>-28.45</b>	Peak
8 *	1715. 0000	37. 95	-2. 17	35. 78	54.00	-18. 22	AVG
9	3342. 5000	34.96	5. 20	40. 16	74.00	-33.84	Peak
10	3342. 5000	24. 95	5. 20	30. 15	54.00	-23.85	AVG
11	5267. 5000	32. 50	12. 10	44.60	74.00	-29. 40	Peak
12	5267. 5000	22. 47	12. 10	34. 57	54.00	-19.43	AVG





EUT	LCD Monitor	Model Name	X24P1				
Temperature	25°C	Relative Humidity	60%				
Test Voltage	AC 120V/60Hz Polarization Horizontal						
Test Mode	HDMI 1080P						
Note	Cable:1.8m						
Test Engineer	Jason Yang						
Panel(Brand/Model)	Н						

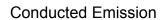


Freq.	Keading Level	Correct Factor	Measure ment	Limit	Margin	
MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1130.0000	45.00	-4.64	40. 36	74.00	-33.64	Peak
1130.0000	34.92	-4.64	30. 28	54.00	-23.72	AVG
1405.0000	46. 39	-3. 14	43. 25	74.00	-30. 75	Peak
1405.0000	36. 40	-3. 14	33. 26	54.00	-20.74	AVG
1482. 5000	46.74	-2.72	44.02	74.00	-29. 98	Peak
1482. 5000	36.89	-2.72	34. 17	54.00	-19.83	AVG
1695.0000	44. 29	-2. 21	42.08	74.00	-31. 92	Peak
1695.0000	34.75	-2. 21	32. 54	54.00	-21.46	AVG
3180.0000	36. 07	4.80	40.87	74.00	-33. 13	Peak
3180.0000	25. 82	4.80	30. 62	54.00	-23. 38	AVG
5432. 5000	32. 19	13. 34	45. 53	74.00	-28. 47	Peak
5432. 5000	22.65	13. 34	35. 99	54.00	-18. 01	AVG
	MHz 1130.0000 1130.0000 1405.0000 1405.0000 1482.5000 1482.5000 1695.0000 3180.0000 3180.0000 5432.5000	Freq. Level	Hreq. Level Factor  MHz dBuV/m dB  1130.0000 45.00 -4.64  1130.0000 34.92 -4.64  1405.0000 46.39 -3.14  1405.0000 36.40 -3.14  1482.5000 46.74 -2.72  1482.5000 36.89 -2.72  1695.0000 44.29 -2.21  1695.0000 34.75 -2.21  3180.0000 36.07 4.80  3180.0000 25.82 4.80  5432.5000 32.19 13.34	MHz         Level dBuV/m         Factor dB uV/m         ment dB uV/m           1130.0000 45.00         -4.64         40.36           1130.0000 34.92         -4.64         30.28           1405.0000 46.39         -3.14         43.25           1405.0000 36.40         -3.14         33.26           1482.5000 46.74         -2.72         44.02           1482.5000 36.89         -2.72         34.17           1695.0000 44.29         -2.21         42.08           1695.0000 34.75         -2.21         32.54           3180.0000 36.07         4.80         40.87           3180.0000 25.82         4.80         30.62           5432.5000 32.19         13.34         45.53	MHz         dBuV/m         dB         dBuV/m         dBuV/m           1130.0000 45.00         -4.64         40.36         74.00           1130.0000 34.92         -4.64         30.28         54.00           1405.0000 46.39         -3.14         43.25         74.00           1405.0000 36.40         -3.14         33.26         54.00           1482.5000 46.74         -2.72         44.02         74.00           1482.5000 36.89         -2.72         34.17         54.00           1695.0000 44.29         -2.21         42.08         74.00           1695.0000 34.75         -2.21         32.54         54.00           3180.0000 36.07         4.80         40.87         74.00           3180.5000 32.19         13.34         45.53         74.00	MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB           1130.0000         45.00         -4.64         40.36         74.00         -33.64           1130.0000         34.92         -4.64         30.28         54.00         -23.72           1405.0000         46.39         -3.14         43.25         74.00         -30.75           1405.0000         36.40         -3.14         33.26         54.00         -20.74           1482.5000         46.74         -2.72         44.02         74.00         -29.98           1482.5000         36.89         -2.72         34.17         54.00         -19.83           1695.0000         44.29         -2.21         42.08         74.00         -31.92           1695.0000         34.75         -2.21         32.54         54.00         -21.46           3180.0000         36.07         4.80         40.87         74.00         -33.13           3180.0000         25.82         4.80         30.62         54.00         -23.38           5432.5000         32.19         13.34         45.53         74.00         -28.47





## **5. EUT TEST PHOTO**







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Radiated emission below 1 GHz





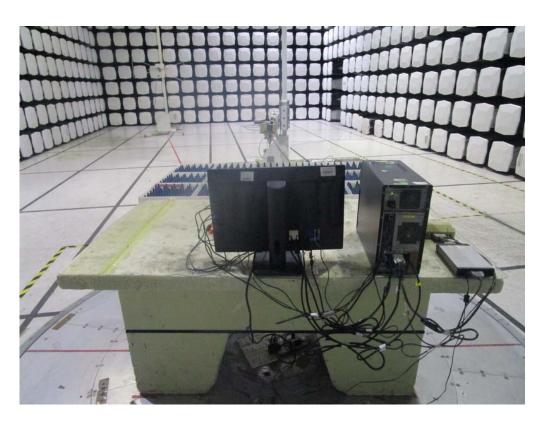
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